

Abstract Submitted
for the DAMOP07 Meeting of
The American Physical Society

Dielectronic Recombination Studies Motivated by Active Galactic Nuclei¹ D.V. LUKIC, D.W. SAVIN, M. SCHNELL, Columbia Astrophys. Lab., C. BRANDAU, Gesellschaft fuer Schwerionenforschung, D. BERNHARDT, A. MUELLER, S. SCHIPPERS, E.W. SCHMIDT, D. YU, Justus-Liebig-Univ., M. GRIESER, J. HOFFMANN, M. LESTINSKY, D.A. ORLOV, R. REPNOW, F. SPRENGER, A. WOLF, Max-Planck-Institut fuer Kernphysik, Z. ALTUN, Marmara Univ., N.R. BADNELL, Univ. of Strathclyde — Recent X-ray satellite observations of active galactic nuclei indicate shortcomings in the low temperature dielectronic recombination (DR) data for iron M-shell ions. In order to resolve this issue and provide reliable iron M-shell DR data, we are carrying out a series of measurements using the heavy-ion Test Storage Ring at the Max-Planck-Institute for Nuclear Physics in Heidelberg, Germany. At temperatures where these ions are predicted to form in photoionized gas, we find significant discrepancies between our experimental results and previously recommended DR data. We are using our laboratory results to produce DR rate coefficients [1] and to benchmark our state-of-the-art DR calculations [2]. Here we report on recent progress. [1] E. W. Schmidt et al., *Astrophys. J.*, 641, L157 (2006) [2] N. R. Badnell, *J. Phys. B*, 39, 4285 (2006)

¹This work is supported part by NASA, the German Federal Ministry for Education and Research, and the German Research Council.

D. V. Lukic
Columbia Astrophys. Lab.

Date submitted: 02 Feb 2007

Electronic form version 1.4